

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

TQ DELTA, LLC,

Plaintiff,

v.

**COMMSCOPE HOLDING COMPANY, INC.,
COMMSCOPE INC., ARRIS
INTERNATIONAL LIMITED, ARRIS
GLOBAL LTD., ARRIS US HOLDINGS, INC.,
ARRIS SOLUTIONS, INC., ARRIS
TECHNOLOGY, INC., and ARRIS
ENTERPRISES, LLC**

Defendants.

CIV. A. NO. 2:21-CV-310-JRG
(Lead Case)

TQ DELTA, LLC,

Plaintiff,

v.

**NOKIA CORP., NOKIA SOLUTIONS AND
NETWORKS OY, and NOKIA OF AMERICA
CORP.,**

Defendants.

CIV. A. NO. 2:21-CV-309-JRG
(Member Case)

NOKIA OF AMERICA CORP.,

Third-Party Plaintiff,

v.

**BROADCOM CORP., BROADCOM INC., and
AVAGO TECHNOLOGIES
INTERNATIONAL SALES PTE. LTD.,**

*Third-Party
Defendants.*

**NOKIA CORPORATION, NOKIA SOLUTIONS AND NETWORKS OY, AND
NOKIA OF AMERICA CORPORATION'S ANSWER TO THE COMPLAINT
AND NOKIA OF AMERICA CORPORATION'S THIRD-PARTY COMPLAINT
AGAINST BROADCOM**



Defendants Nokia Solutions and Networks Oy, Nokia Corporation, and Nokia America Corporation (collectively, “Nokia”) by their undersigned attorneys, hereby answer the Complaint filed by Plaintiff TQ Delta, LLC (“TQ Delta”) on August 13, 2021, in the above-captioned action. Nokia of America Corporation further sets forth its third-party complaint against third-party defendants Broadcom Corporation, Broadcom Inc., and Avago Technologies International Sales Pte. Ltd. (collectively, “Broadcom”).

As an initial matter, Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the asserted claims of United States Patent Nos. 7,570,686 (“the ’686 Patent”); 7,844,882 (“the ’882 Patent”); 8,090,008 (“the ’008 Patent”); 8,468,411 (“the ’411 Patent”); 8,495,473 (“the ’5473 Patent”); 8,594,162 (“the ’162 Patent”); 8,595,577 (“the ’577 Patent”); 8,937,988 (“the ’988 Patent”); 9,014,193 (“the ’193 Patent”); 9,094,348 (“the ’348 Patent”); 9,154,354 (“the ’354 Patent”); 9,300,601 (“the ’601 Patent”); 9,485,055 (“the ’055 Patent”); 9,547,608 (“the ’608 Patent”); 9,894,014 (“the ’014 Patent”); 10,044,473 (“the ’4473 Patent”); 10,409,510 (“the ’510 Patent”); 10,567,112 (“the ’112 Patent”); and 10,833,809 (“the ’809 Patent”) (collectively “the Asserted Patents”).

Nokia further denies that any patent claims in this action are valid or enforceable. Nokia further reserves the right to amend or supplement its Answer based on any additional facts or developments that become available or that arise after the filing of this Answer.

Nokia denies each and every allegation averred in the Complaint that is not expressly admitted below. Any factual allegation admitted below is admitted only as to the specific admitted facts, and not as to any purported conclusions, characterizations, implications, or speculations that might follow from the admitted facts.

NOKIA’S ANSWER TO THE
ORIGINAL COMPLAINT AND
NOAC’S THIRD-PARTY COMPLAINT
AGAINST BROADCOM

I. SPECIFIC RESPONSES TO ALLEGATIONS IN THE COMPLAINT

Except as expressly admitted below, Nokia denies each and every allegation set forth in the Complaint:

II. ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT¹

I. INTRODUCTION

1. Nokia admits that TQ Delta purports to own a portfolio of patents. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 1 and therefore denies them. Except as expressly admitted, Nokia denies the allegations contained in paragraph 1.

2. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the asserted claims of the Asserted Patents. Nokia denies that it has refused to obtain a license to the Asserted Patents. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 2 and therefore denies them. Except as expressly admitted, Nokia denies the allegations contained in paragraph 2.

II. NATURE OF THE SUIT

3. Nokia admits that the Complaint purports to allege a claim for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the asserted claims of the Asserted Patents.

¹ Headings and subheadings are copied from the Complaint for ease of reference only. These headings and subheadings do not require any response and do not constitute an admission or denial of any purported fact or allegation. To the extent a response is required to any allegation in the Complaint's headings or subheadings, Nokia of America denies those allegations

III. THE PARTIES

4. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 4 and therefore denies them.

5. Nokia admits that Nokia Corporation (“Nokia Corp.”) is a Finnish corporation with a principal place of business at Karakaari 7, FI-02610 Espoo, Finland. Nokia admits that Nokia acquired Alcatel-Lucent entities.

6. Nokia admits that Nokia Solutions and Networks Oy is a corporation organized under the laws of Finland with a principal place of business at Karakaari 7, FI-02610 Espoo, Finland. Nokia admits that Nokia Solutions and Networks Oy is a wholly owned subsidiary of Nokia Corp.

7. Nokia admits that Nokia of America Corporation (“Nokia of America”) is a Delaware corporation with a principal place of business at 600 Mountain Avenue, Murray Hill, NJ 07974. Nokia further admits that Nokia of America has a registered agent, Corporation Service Company, at 251 Little Falls Drive, Wilmington, DE 19808.

8. Nokia admits that Nokia of America Corporation is an indirect wholly owned subsidiary of Nokia Corporation.

9. Nokia admits that the Complaint purports to group Nokia Corp., Nokia Solutions and Networks Oy, and Nokia of America under the moniker of Nokia. Nokia denies that such a grouping is appropriate with respect to all of the Complaint’s allegations. Except as expressly admitted, Nokia denies the allegations contained in paragraph 9.

10. Nokia denies that Nokia Corp., Nokia Solutions and Networks Oy, and Nokia of America hold themselves out to be a single entity. Nokia admits that www.nokia.com can direct

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the public to aspects of Nokia's business. Nokia denies that it offers for sale and sells the accused products through that website. Except as expressly admitted, Nokia denies the allegations contained in paragraph 10.

IV. JURISDICTION AND VENUE

11. Nokia admits the Complaint purports to bring an action under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, but denies that Nokia has committed any acts of infringement. Except as so admitted, the allegations contained in paragraph 11 are denied.

12. To the extent the allegations contained in paragraph 12 call for a legal conclusion, no response is required. To the extent a response is required, Nokia admits that this Court has subject matter jurisdiction over the Complaint for purposes of this action only. Except as expressly admitted, the allegations contained in paragraph 12 are denied.

13. To the extent the allegations contained in paragraph 13 call for a legal conclusion, no response is required. To the extent a response is required, Nokia admits that this Court has personal jurisdiction over Nokia of America for purposes of this action only and that Nokia of America has done and continues to do business in Texas. Nokia denies that it has committed any acts of infringement. Except as expressly admitted, the allegations contained in paragraph 13 are denied.

14. Nokia admits that Nokia of America presently "has offices in Texas" and "conducts business operations within the Eastern District of Texas." Nokia admits that Nokia of America has had a "Nokia facility in Plano, Texas that has been used as a training center," a "data center in Plano," a "Nokia facility in Lewisville, Texas," and a legacy Alcatel-Lucent "regional headquarters in Plano, Texas." Nokia admits that these facilities contained Nokia employees

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and/or other individuals Nokia directs or controls. Except as expressly admitted, the allegations contained in paragraph 14 are denied.

15. Nokia admits that Nokia of America also maintains additional offices in nearby locations throughout Texas, including a U.S. headquarters in Dallas and a NokiaEDU training center in Dallas.

16. Nokia admits that Nokia of America also has customers with locations in Texas and this District. Except as expressly admitted, the allegations contained in paragraph 16 are denied.

17. To the extent the allegations contained in paragraph 17 call for a legal conclusion, no response is required. To the extent a response is required, Nokia admits that Nokia of America also has invoked the jurisdiction of courts within the District. Except as expressly admitted, the allegations contained in paragraph 17 are denied.

18. To the extent the allegations contained in paragraph 18 call for a legal conclusion, no response is required. To the extent a response is required, for purposes of this action only, Nokia admits that venue is proper in this district under 28 U.S.C. §§ 1391 and 1400(b).

19. To the extent the allegations contained in paragraph 19 call for a legal conclusion, no response is required. To the extent a response is required, for purposes of this action only, Nokia admits that venue is proper as to Nokia Corp. under 28 U.S.C. § 1391(c)(3) as a corporation that is not resident in the United States.

20. To the extent the allegations contained in paragraph 20 call for a legal conclusion, no response is required. To the extent a response is required, for purposes of this action only, Nokia admits that venue is proper as to Nokia Solutions and Networks Oy under 28 U.S.C. § 1391(c)(3) as a corporation that is not resident in the United States.

21. To the extent the allegations contained in paragraph 21 call for a legal conclusion, no response is required. To the extent a response is required, for purposes of this action only, Nokia admits that venue as to Nokia of America is proper in this district under 28 U.S.C. § 1400(b), but denies that Nokia of America has committed any acts of infringement. Except as expressly admitted, the allegations contained in paragraph 21 are denied.

22. To the extent the allegations contained in paragraph 22 call for a legal conclusion, no response is required. To the extent a response is required, for purposes of this action only, Nokia admits that venue as to Nokia of America is proper in this district under 28 U.S.C. § 1400(b), but denies that Nokia of America has committed any acts of infringement. Except as expressly admitted, the allegations contained in paragraph 22 are denied.

V. BACKGROUND

A. TQ Delta and the DSL Standards

23. Nokia admits that TQ Delta purports to be the successor-in-interest in patents from Aware, Inc. (“Aware”). Except as expressly admitted, the allegations contained in paragraph 23 are denied.

24. Nokia admits that the Complaint alleges a claim for infringement of the Asserted Patents. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the Asserted Patents. Except as expressly admitted, the allegations contained in paragraph 24 are denied.

25. Nokia admits that Marco Tzannes is listed as a named inventor on at least one of the Asserted Patents. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 25 and therefore denies them.

26. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 26 and therefore denies them.

27. Nokia Admits that representatives of Nokia (such as representatives of its predecessor Alcatel and/or Alcatel-Lucent) have attended ITU standards meetings. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 27 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 27 are denied.

28. Nokia admits that ITU has adopted a number of industry standards relating to DSL technologies. Those include ITU-T ADSL2/2+, ITU-T VDSL2, ITU-T G.bond, ITUT-T G.inp, ITU-T G.vector, and ITU-T G.fast.

B. Nokia's Alleged Infringement of the TQ Delta's [sic] Patents

29. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the Asserted Patents. Nokia admits that Nokia makes, uses, sells, offers for sale, and/or imports (1) customer premise equipment ("CPE") products and (2) central office equipment ("CO") products. Portions of one or more of Nokia's CPE and CO products operate in accordance with one or more of the DSL standards ("DSL Products"). The remaining allegations contained in paragraph 29 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 29 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 29 are denied.

30. Nokia admits that Nokia of America provides DSL Products to telephone/broadband carriers and/or such carriers' subscribers/customers. The remaining

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allegations contained in paragraph 30 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 30 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 30 are denied.

31. Nokia admits that Nokia has known about certain, but not all, of Asserted Patents since prior to filing of this Complaint. Nokia denies that it has known about all of the Asserted Patents prior to the Complaint. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the Asserted Patents. Nokia specifically denies that TQ Delta has ever made a FRAND-compliant offer to Nokia for a license to any of TQ Delta's patents. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 31 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 31 are denied.

32. Nokia denies the allegations of paragraph 32.

33. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the Asserted Patents. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 33 and therefore denies them.

34. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 34 and therefore denies them.

35. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 35 and therefore denies them.

36. Nokia admits the that Patent Statement and Licensing Declarations include the standard that a patent holder identifies for purposes of the declaration. Nokia admits that the ITU

PSLDs are publicly available. Except as expressly admitted, the allegations contained in paragraph 36 are denied.

37. Nokia admits that TQ Delta submitted a PSD in connection with G.fast (G.9701) in which TQ Delta unilaterally stated that it “believe[d] that it holds granted and/or pending application for Patents, the use of which would be required to implement [ITU-T G.9701].” Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 37 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 37 are denied.

38. Nokia admits that Nokia is familiar with the PSD database and the contents of declarations filed with the ITU. Nokia (and its predecessor, Alcatel and/or Alcatel-Lucent) has submitted PSDs relating to DSL standards. Except as expressly admitted, the allegations contained in paragraph 38 are denied.

39. Nokia admits that it was familiar with the ITU procedures and requirements for submissions of PSDs, and the process of identifying parties who had submitted PSDs for the DSL standards prior to the filing of this Complaint. Except as expressly admitted, the allegations contained in paragraph 39 are denied.

40. Nokia admits that it was aware of certain of the Asserted Patents prior to the filing of this Complaint. Nokia specifically denies that it was aware of all of the Asserted Patents prior to the filing of this Complaint. Nokia specifically denies that it was aware of infringement prior to the filing of the Complaint. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the Asserted Patents. Except as expressly admitted, the allegations contained in paragraph 40 are denied.

41. Nokia denies the allegations of paragraph 41.

VI. CLAIMS

A. Alleged Infringement of the '686 Patent

42. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

43. Nokia admits that Exhibit 1 to the Complaint purports to be a true and correct copy of the '686 Patent, entitled "Systems and methods for establishing a diagnostic transmission mode and communicating over the same," and with David Krinsky as the first named inventor.

44. Nokia denies that the '686 Patent duly and legally issued on August 4, 2009 and instead alleges that its claims are invalid.

45. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 45 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 45 are denied.

46. Nokia admits that the ADSL2/2+ (G.992.3/5) and VDSL2 (ITU-T G.993.2) standards include specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 46 are denied.

47. The allegations contained in paragraph 47 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 47 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 47 are denied.

48. The allegations contained in paragraph 48 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 48 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 48 are denied.

49. Nokia denies the allegations in paragraph 49.

50. Nokia denies the allegations in paragraph 50.

51. Nokia denies the allegations in paragraph 51.

52. Nokia denies the allegations in paragraph 52.

B. Alleged Infringement of the '882 Patent

53. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

54. Nokia admits that Exhibit 2 to the Complaint purports to be a true and correct copy of the '882 Patent, entitled "Resource sharing in a telecommunications environment," and with Marcos Tzannes as the first named inventor.

55. Nokia denies that the '882 Patent duly and legally issued on November 30, 2010 and instead alleges that its claims are invalid.

56. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 56 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 56 are denied.

57. Nokia admits that the VDSL2 (ITU-T G.993.2) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 57 are denied.

58. The allegations contained in paragraph 58 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 58 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 58 are denied.

59. Nokia denies the allegations in paragraph 59.

60. Nokia denies the allegations in paragraph 60.

61. Nokia denies the allegations in paragraph 61.

62. Nokia denies the allegations in paragraph 62.

C. Alleged Infringement of the '008 Patent

63. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

64. Nokia admits that Exhibit 3 to the Complaint purports to be a true and correct copy of the '008 Patent, entitled "System and method for scrambling the phase of the carriers in a multicarrier communications system," and with Marcos Tzannes as the first named inventor.

65. Nokia denies that the '008 Patent duly and legally issued on July 3, 2012 and instead alleges that its claims are invalid.

66. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 66 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 66 are denied.

67. Nokia admits that the VDSL2 (ITU-T G.993.2) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 67 are denied.

68. The allegations contained in paragraph 68 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 68 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 68 are denied.

69. Nokia denies the allegations in paragraph 69.

70. Nokia denies the allegations in paragraph 70.

71. Nokia denies the allegations in paragraph 71.

72. Nokia denies the allegations in paragraph 72.

D. Alleged Infringement of the '411 Patent

73. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

74. Nokia admits that Exhibit 4 to the Complaint purports to be a true and correct copy of the '411 Patent, entitled "Packet Transmission," and with Marcos Tzannes as the first named inventor.

75. Nokia denies that the '411 Patent duly and legally issued on June 18, 2013 and instead alleges that its claims are invalid.

76. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 76 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 76 are denied.

77. Nokia admits that the G.inp (ITU-T G.998.4) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 77 are denied.

78. The allegations contained in paragraph 78 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 78 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 78 are denied.

79. Nokia denies the allegations in paragraph 79.

80. Nokia denies the allegations in paragraph 80.

81. Nokia denies the allegations in paragraph 81.

82. Nokia denies the allegations in paragraph 82.

E. Alleged Infringement of the '5473 Patent

83. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

84. Nokia admits that Exhibit 5 to the Complaint purports to be a true and correct copy of the '5473 Patent, entitled "Resource sharing in a telecommunications environment," and with Marcos Tzannes as the first named inventor.

85. Nokia denies that the '5473 Patent duly and legally issued on July 23, 2013 and instead alleges that its claims are invalid.

86. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 86 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 86 are denied.

87. Nokia admits that the VDSL2 (ITU-T G.993.2) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 87 are denied.

88. The allegations contained in paragraph 88 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 88 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 88 are denied.

89. Nokia denies the allegations in paragraph 89.

90. Nokia denies the allegations in paragraph 90.

91. Nokia denies the allegations in paragraph 91.

92. Nokia denies the allegations in paragraph 92.

F. Alleged Infringement of the '162 Patent

93. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

94. Nokia admits that Exhibit 6 to the Complaint purports to be a true and correct copy of the '162 Patent, entitled "Impulse noise management," and with Marcos Tzannes as the first named inventor.

95. Nokia denies that the '162 Patent duly and legally issued on November 26, 2013 and instead alleges that its claims are invalid.

96. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 96 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 96 are denied.

97. Nokia admits that the VDSL2 (ITU-T G.993.2) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 97 are denied.

98. The allegations contained in paragraph 98 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 98 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 98 are denied.

99. Nokia denies the allegations in paragraph 99.

100. Nokia denies the allegations in paragraph 100.

101. Nokia denies the allegations in paragraph 101.

102. Nokia denies the allegations in paragraph 102.

G. Alleged Infringement of the '577 Patent

103. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

104. Nokia admits that Exhibit 7 to the Complaint purports to be a true and correct copy of the '577 Patent, entitled "Packet Retransmission," and with Marcos Tzannes as the first named inventor.

105. Nokia denies that the '577 Patent duly and legally issued on November 26, 2013 and instead alleges that its claims are invalid.

106. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 106 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 106 are denied.

107. Nokia admits that the G.inp (ITU-T G.998.4) and G.VDSL2 (ITU-T G.993.2) standards include specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 107 are denied.

108. Nokia admits that the G.inp (ITU-T G.998.4) and G.ADSL2/2+ (ITU-T G.992.3/5) standards include specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 108 are denied.

109. The allegations contained in paragraph 109 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient

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to form a belief as to the truth of the remaining allegations of paragraph 109 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 109 are denied.

110. Nokia admits that the G.fast (ITU-T G.9701) includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 108 are denied.

111. The allegations contained in paragraph 111 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 111 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 111 are denied.

112. Nokia denies the allegations in paragraph 112.

113. Nokia denies the allegations in paragraph 113.

114. Nokia denies the allegations in paragraph 114.

115. Nokia denies the allegations in paragraph 115.

116. Nokia denies the allegations in paragraph 116.

117. Nokia denies the allegations in. paragraph 117.

H. Alleged Infringement of the '988 Patent

118. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

119. Nokia admits that Exhibit 8 to the Complaint purports to be a true and correct copy of the '988 Patent, entitled "Systems and methods for a multicarrier modulation system with a variable margin," and with Marcos Tzannes as the first named inventor.

120. Nokia denies that the '988 Patent duly and legally issued on January 20, 2015 and instead alleges that its claims are invalid.

121. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 121 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 121 are denied.

122. Nokia admits that the G.fast (ITU-T G.9701) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 122 are denied.

123. The allegations contained in paragraph 123 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 123 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 123 are denied.

124. Nokia denies the allegations in paragraph 124.

125. Nokia denies the allegations in paragraph 125.

126. Nokia denies the allegations in paragraph 126.

127. Nokia denies the allegations in paragraph 127.

I. Alleged Infringement of the '193 Patent

128. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

129. Nokia admits that Exhibit 9 to the Complaint purports to be a true and correct copy of the '193 Patent, entitled "Bonding device and method," and with Marcos Tzannes as the first named inventor.

130. Nokia denies that the '193 Patent duly and legally issued on April 21, 2015 and instead alleges that its claims are invalid.

131. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 131 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 131 are denied.

132. Nokia admits that the G.bond (ITU-T G.998.1 and G.998.2) standards includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 132 are denied.

133. The allegations contained in paragraph 133 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 133 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 133 are denied.

134. Nokia denies the allegations in paragraph 134.

135. Nokia denies the allegations in paragraph 135.

136. Nokia denies the allegations in paragraph 136.

137. Nokia denies the allegations in paragraph 137.

J. Alleged Infringement of the '348 Patent

138. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

139. Nokia admits that Exhibit 10 to the Complaint purports to be a true and correct copy of the '348 Patent, entitled "Packet Retransmission," and with Marcos Tzannes as the first named inventor.

140. Nokia denies that the '348 Patent duly and legally issued on July 28, 2015 and instead alleges that its claims are invalid.

141. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 141 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 141 are denied.

142. Nokia admits that the G.inp (ITU-T G.998.4) and G.VDSL2 (ITU-T G.993.2) standards include specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 142 are denied.

143. Nokia admits that the G.fast (ITU-T G.9701) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 144 are denied.

144. The allegations contained in paragraph 144 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 144 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 144 are denied.

145. The allegations contained in paragraph 145 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 145 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 145 are denied.

146. Nokia denies the allegations in paragraph 146.

147. Nokia denies the allegations in paragraph 147.

148. Nokia denies the allegations in paragraph 148.

149. Nokia denies the allegations in paragraph 149.

150. Nokia denies the allegations in paragraph 150.

151. Nokia denies the allegations in paragraph 151.

K. Alleged Infringement of the '354 Patent

152. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

153. Nokia admits that Exhibit 11 to the Complaint purports to be a true and correct copy of the '354 Patent, entitled "System and methods for a multicarrier modulation system with a variable margin," and with Marcos Tzannes as the first named inventor.

154. Nokia denies that the '354 Patent duly and legally issued on October 6, 2015 and instead alleges that its claims are invalid.

155. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 155 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 155 are denied.

156. Nokia admits that the G.inp (ITU-T G.998.4) and G.VDSL2 (ITU-T G.993.2) standards includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 156 are denied.

157. Nokia admits that the G.fast (ITU-T G.9701) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 157 are denied.

158. The allegations contained in paragraph 158 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 158 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 158 are denied.

159. The allegations contained in paragraph 159 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 159 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 159 are denied.

160. Nokia denies the allegations in paragraph 160.

161. Nokia denies the allegations in paragraph 161.

162. Nokia denies the allegations in paragraph 162.

163. Nokia denies the allegations in paragraph 163.

164. Nokia denies the allegations in paragraph 164.

165. Nokia denies the allegations in paragraph 165.

L. Alleged Infringement of the '601 Patent

166. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

167. Nokia admits that Exhibit 12 to the Complaint purports to be a true and correct copy of the '601 Patent, entitled "Bonding device and method," and with Marcos Tzannes as the first named inventor.

168. Nokia denies that the '601 Patent duly and legally issued on March 29, 2016 and instead alleges that its claims are invalid.

169. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 169 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 169 are denied.

170. Nokia admits that the G.bond (ITU-T G.998.1 and G.998.2) standards includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 170 are denied.

171. The allegations contained in paragraph 171 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 171 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 171 are denied.

172. Nokia denies the allegations in paragraph 172.

173. Nokia denies the allegations in paragraph 173.

174. Nokia denies the allegations in paragraph 174.

175. Nokia denies the allegations in paragraph 175.

M. Alleged Infringement of the '055 Patent

176. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

177. Nokia admits that Exhibit 13 to the Complaint purports to be a true and correct copy of the '055 Patent, entitled "Packet retransmission and memory sharing," and with Marcos Tzannes as the first named inventor.

178. Nokia denies that the '055 Patent duly and legally issued on November 1, 2016 and instead alleges that its claims are invalid.

179. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 179 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 179 are denied.

180. Nokia admits that the G.fast (ITU-T G.9701) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 180 are denied.

181. The allegations contained in paragraph 181 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 181 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 181 are denied.

182. Nokia denies the allegations in paragraph 182.

183. Nokia denies the allegations in paragraph 183.

184. Nokia denies the allegations in paragraph 184.

185. Nokia denies the allegations in paragraph 185.

N. Alleged Infringement of the '608 Patent

186. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

187. Nokia admits that Exhibit 14 to the Complaint purports to be a true and correct copy of the '608 Patent, entitled "Resource sharing in a telecommunications environment," and with Marcos Tzannes as the first named inventor.

188. Nokia denies that the '608 Patent duly and legally issued on January 17, 2017 and instead alleges that its claims are invalid.

189. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 189 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 189 are denied.

190. Nokia admits that VDSL2 (ITU-T G.993.2) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 190 are denied.

191. The allegations contained in paragraph 191 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 191 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 191 are denied.

192. Nokia denies the allegations in paragraph 192.

193. Nokia denies the allegations in paragraph 193.

194. Nokia denies the allegations in paragraph 194.

195. Nokia denies the allegations in paragraph 195.

O. Alleged Infringement of the '014 Patent

196. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

[REDACTED]

197. Nokia admits that Exhibit 15 to the Complaint purports to be a true and correct copy of the '014 Patent, entitled "Bonding device and method," and with Marcos Tzannes as the first named inventor.

198. Nokia denies that the '014 Patent duly and legally issued on February 13, 2018 and instead alleges that its claims are invalid.

199. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 199 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 199 are denied.

200. Nokia admits that the G.bond (ITU-T G.998.1 and G.998.2) standards includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 200 are denied.

201. The allegations contained in paragraph 201 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 201 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 201 are denied.

202. Nokia denies the allegations in paragraph 202.

203. Nokia denies the allegations in paragraph 203.

204. Nokia denies the allegations in paragraph 204.

205. Nokia denies the allegations in paragraph 205.

P. Alleged Infringement of the '4473 Patent

206. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

207. Nokia admits that Exhibit 16 to the Complaint purports to be a true and correct copy of the '4473 Patent, entitled "Packet retransmission and memory sharing," and with Marcos Tzannes as the first named inventor.

208. Nokia denies that the '4473 Patent duly and legally issued on August 7, 2018 and instead alleges that its claims are invalid.

209. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 209 and therefor denies them. Except as expressly admitted, the allegations contained in paragraph 209 are denied.

210. Nokia admits that the G.inp (ITU-T G.998.4) and G.VDSL2 (ITU-T G.993.2) standards include specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 210 are denied.

211. Nokia admits that the G.fast (ITU-T G.9701) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 211 are denied.

212. The allegations contained in paragraph 212 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 212 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 212 are denied.

213. The allegations contained in paragraph 213 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 213 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 213 are denied.

214. Nokia denies the allegations in paragraph 214.

215. Nokia denies the allegations in paragraph 215.

216. Nokia denies the allegations in paragraph 216.

217. Nokia denies the allegations in paragraph 217

218. Nokia denies the allegations in paragraph 218.

219. Nokia denies the allegations in paragraph 219.

Q. Alleged Infringement of the '510 Patent

220. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

221. Nokia admits that Exhibit 17 to the Complaint purports to be a true and correct copy of the '510 Patent, entitled "Resource sharing in a telecommunications environment," and with Marcos Tzannes as the first named inventor.

222. Nokia denies that the '510 Patent duly and legally issued on September 10, 2019 and instead alleges that its claims are invalid.

223. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 223 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 223 are denied.

224. Nokia admits that the VDSL2 (ITU-T G.993.2) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 224 are denied.

225. The allegations contained in paragraph 225 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 225 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 225 are denied.

226. Nokia denies the allegations in paragraph 226.

227. Nokia denies the allegations in paragraph 227.

228. Nokia denies the allegations in paragraph 228.

229. Nokia denies the allegations in paragraph 229.

R. Alleged Infringement of the '112 Patent

230. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

231. Nokia admits that Exhibit 18 to the Complaint purports to be a true and correct copy of the '112 Patent, entitled "Impulse noise management," and with Marcos Tzannes as the first named inventor.

232. Nokia denies that the '112 Patent duly and legally issued on February 18, 2018 and instead alleges that its claims are invalid.

233. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 233 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 233 are denied.

234. Nokia admits that the G.fast (ITU-T G.9701) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 234 are denied.

235. The allegations contained in paragraph 235 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 235 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 235 are denied.

236. Nokia denies the allegations in paragraph 236.

237. Nokia denies the allegations in paragraph 237.

238. Nokia denies the allegations in paragraph 238.

239. Nokia denies the allegations in paragraph 239.

S. Alleged Infringement of the '809 Patent

240. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

241. Nokia admits that Exhibit 19 to the Complaint purports to be a true and correct copy of the '809 Patent, entitled "Techniques for packet and message communication in a multicarrier transceiver environment," and with Marcos Tzannes as the first named inventor.

242. Nokia denies that the '809 Patent duly and legally issued on November 10, 2020 and instead alleges that its claims are invalid.

243. Nokia is without knowledge or information sufficient to form a belief as to the truth of the allegations of paragraph 243 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 243 are denied.

244. Nokia admits that the G.inp (ITU-T G.998.4) and G.VDSL2 (ITU-T G.993.2) standards include specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 244 are denied.

245. Nokia admits that the G.fast (ITU-T G.9701) standard includes specifications as set forth therein. Except as expressly admitted, the allegations contained in paragraph 245 are denied.

246. The allegations contained in paragraph 246 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 246 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 246 are denied.

247. The allegations contained in paragraph 247 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 247 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 247 are denied.

248. Nokia denies the allegations in paragraph 248.

249. Nokia denies the allegations in paragraph 249.

250. Nokia denies the allegations in paragraph 250.

251. Nokia denies the allegations in paragraph 251.

252. Nokia denies the allegations in paragraph 252.

253. Nokia denies the allegations in paragraph 253.

254. Nokia denies the allegations in paragraph 254.

III. T. Declaratory Judgment that Nokia is Not Entitled a License on a Worldwide, Non-Discriminatory Basis and on Reasonable Terms and Conditions

255. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

256. Nokia denies the allegations in paragraph 256.

257. The allegations contained in paragraph 257 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 257 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 257 are denied.

258. Nokia admits that TQ Delta (or its predecessor-in-interest, Aware) submitted PSLDs regarding certain DSL standards. Except as expressly admitted, the allegations contained in paragraph 258 are denied.

259. Nokia admits that certain of these PSLDs expressed that TQ Delta (or its predecessor-in-interest, Aware) was "prepared to grant ... on a worldwide, non-discriminatory basis and on reasonable terms and conditions to make, use and sell implementations...." related to the referenced standard document. Except as expressly admitted, the allegations contained in paragraph 259 are denied.

260. The allegations contained in paragraph 260 are generalized, vague, and ambiguous and therefore cannot be admitted or denied. Nokia is without knowledge or information sufficient to form a belief as to the truth of the remaining allegations of paragraph 260 and therefore denies them. Except as expressly admitted, the allegations contained in paragraph 260 are denied.

[REDACTED]

261. Nokia denies the allegations in paragraph 261.

262. Nokia admits that TQ Delta purports its offers to Nokia were on reasonable terms and conditions. Except as expressly admitted, the allegations contained in paragraph 262 are denied.

263. Nokia admits that TQ Delta purports its offers to Nokia were non-discriminatory. Except as expressly admitted, the allegations contained in paragraph 263 are denied.

264. Nokia admits that TQ Delta purports its offers to Nokia were on a worldwide basis. Except as expressly admitted, the allegations contained in paragraph 264 are denied.

265. Nokia admits that TQ Delta purports that it has complied and continues to comply with any binding commitment of TQ Delta's (or its predecessor-in-interest, Aware's) to license its patents to Nokia on a worldwide, non-discretionary basis and on reasonable terms and conditions, including under Texas law. Except as expressly admitted, the allegations contained in paragraph 265 are denied.

266. Nokia admits that TQ Delta purports that its license offers to Nokia satisfied any binding obligations TQ Delta (or its predecessor-in-interest, Aware) had to license its patents to Nokia on a worldwide, non-discretionary basis and on reasonable terms and conditions, including under Texas law. Except as expressly admitted, the allegations contained in paragraph 266 are denied.

267. Nokia denies the allegations in paragraph 267.

268. Nokia denies the allegations in paragraph 268.

269. Nokia denies the allegations in paragraph 269.

270. Nokia denies the allegations in paragraph 270.

271. Nokia denies that Plaintiff is entitled to a declaratory judgment that TQ Delta complied with any binding commitment to be prepared to offer a license on terms set forth in the PSLDs or otherwise to license its patents on a worldwide, non-discretionary basis and on reasonable terms and conditions.

272. Nokia denies that Plaintiff is entitled to a declaratory judgment that Nokia is not entitled to the any terms in the PSLDs or otherwise entitled to license any of the TQ Delta Patents on a worldwide, non-discretionary basis and on reasonable terms and conditions.

IV. VII. DAMAGES

273. Nokia's response to the allegations of each foregoing paragraph are incorporated by reference as if fully set forth herein. Except as expressly admitted, the allegations contained in the foregoing paragraphs are denied.

274. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the asserted claims of the Asserted Patents. Nokia denies that TQ Delta has been injured. Nokia further denies that TQ Delta is entitled to damages in any amount.

275. Nokia denies that it has infringed any valid and enforceable intellectual property rights, including the asserted claims of the Asserted Patents. Nokia further denies that it has willfully infringed any of the alleged TQ Delta Patents, and specifically denies that TQ Delta is entitled to treble damages under 35 U.S.C. § 284.

276. Nokia denies that any infringement, if found, has been willful and renders this case exceptional under 35 U.S.C. § 285, such that TQ Delta is entitled to all reasonable attorneys' fees and costs incurred in this litigation, together with pre-judgment and post-judgment interest thereon.

VIII. PRAYER FOR RELIEF

To the extent any response is required to any paragraph of Plaintiff's Prayer for Relief, Nokia denies that Plaintiff is entitled to any of the requested relief and denies any allegations of its Prayer for Relief. Nokia further denies each and every allegation in the Complaint to which it has not specifically responded.

IX. JURY DEMAND

No response is required to this paragraph, which sets forth TQ Delta's demand for a trial by jury on all claims and issues so triable.

V. AFFIRMATIVE DEFENSES

Subject to the responses above, Nokia alleges and asserts the following defenses in response to the allegations, undertaking the burden of proof only as to those defenses deemed affirmative defenses by law and without reducing or removing Plaintiff's burden of proof on its affirmative claims against Nokia, regardless of how such defenses are denominated herein. In addition to the affirmative defenses described below, subject to their responses above, Nokia specifically reserves all rights to allege additional affirmative defenses that become known through the course of discovery.

**VI. FIRST AFFIRMATIVE DEFENSE
(Invalidity)**

1. The claims of the Asserted Patents are invalid for failure to satisfy one or more of the requirements of 35 U.S.C. §§ 1 *et seq.*, including but not limited to 35 U.S.C. §§ 101, 102, 103, 112, and/or 116.

**VII. SECOND AFFIRMATIVE DEFENSE
(Prosecution History Estoppel)**

2. TQ Delta is estopped, based on statements, representations, and admissions made during prosecution of the applications that led to the Asserted Patents, from asserting any interpretation of the claims of those patents that would be broad enough to cover any accused equipment or methods alleged to infringe those patents, either literally or under the doctrine of equivalents.

**VIII. THIRD AFFIRMATIVE DEFENSE
(Equitable Defenses)**

3. TQ Delta's claims are barred, either whole or in part, by the doctrine of waiver, estoppel, and/or unclean hands.

**IX. FOURTH AFFIRMATIVE DEFENSE
(No Equitable Entitlement to Injunctive Relief)**

4. TQ Delta is not entitled to injunctive relief under any theory, including without limitation, because any alleged injury to TQ Delta is not immediate or irreparable, TQ Delta has an adequate remedy at law, and/or public policy concerns weigh against any injunctive relief.

**X. FIFTH AFFIRMATIVE DEFENSE
(Statutory Limitations on Damages)**

5. Any claim by TQ Delta for damages is limited by 35 U.S.C. §§ 252, 286, 287, or 307. TQ Delta is barred by 35 U.S.C. § 288 from recovering costs associated with this action.

**XI. SIXTH AFFIRMATIVE DEFENSE
(Statutory Limitation)**

6. To the extent certain equipment accused of infringing the Asserted Patents are used by and/or manufactured for the United States Government, TQ Delta's claims involving Nokia of

[REDACTED]

America with respect to such equipment may not be pursued in this Court and are subject to other limitations pursuant to 28 U.S.C. § 1498.

**XII. SEVENTH AFFIRMATIVE DEFENSE
(Non-Compliance with SSO Undertakings and Obligations)**

7. TQ Delta's claims for relief are limited and/or barred, in whole or in part, by its undertakings and obligations to standards-setting organizations.

**XIII. EIGHTH AFFIRMATIVE DEFENSE
(Contractual Limitation on Damages - FRAND)**

8. TQ Delta's claims for monetary relief are limited, in whole or in part, by its obligations to license on fair, reasonable, and non-discriminatory terms.

**XIV. NINTH AFFIRMATIVE DEFENSE
(Failure to State a Claim)**

9. TQ Delta's Complaint fails to state facts sufficient to constitute a claim upon which relief can be granted.

**XV. TENTH AFFIRMATIVE DEFENSE
(Express License, Implied License, and/or Patent Exhaustion)**

10. TQ Delta's claims of patent infringement and monetary relief are barred, in whole or part, by the doctrines of express license, implied license, and/or patent exhaustion because, by way of example, Nokia and the customers or end users of Nokia's equipment were authorized to make, use, sell, and/or offer to sell products embodying the asserted claims of the Asserted Patents under the terms of license agreements with TQ Delta.

11. As an example, the accused products may be subject to an express or implied license under an agreement between [REDACTED]

12. As another example, in a litigation before Judge Andrews at the District of Delaware, Michael Tzannes, the primary inventor of the majority of TQ Delta's portfolio, testified

[REDACTED]

that Infineon was licensed to build and sell DSL chips. *See* Ex. No. 2, Defendant ADTRAN, Inc.’s Licensing Proffer at *2–3, *TQ Delta, LLC v. ADTRAN*, No. 1:15-cv-00121 (D. Del. Oct. 3, 2019), ECF No. 864. [REDACTED]

[REDACTED]

[REDACTED] Accordingly, those products are the subject of an express license, implied license, and/or subject to patent exhaustion.

**XVI. ELEVENTH AFFIRMATIVE DEFENSE
(Lack of Standing)**

13. TQ Delta lacks standing to assert the claims contained in the Complaint, to the extent it has failed to demonstrate that it is the owner of the Asserted Patents or possess exclusive rights to the Asserted Patents alleged to have been infringed.

**XVII. TWELFTH DEFENSE
(Acts of Others)**

14. The claims made in the Complaint are barred, in whole or in part, because Nokia is not liable for the acts of others over whom it has no control.

**XVIII. THIRTEENTH DEFENSE
(No Causation)**

15. TQ Delta’s claims against Nokia are barred because TQ Delta’s damages, if any, were not caused by Nokia.

**XIX. FOURTEENTH DEFENSE
(Patent Ownership)**

16. TQ Delta has failed to provide adequate ownership of the patents asserted in the Complaint.

17. To the extent TQ Delta was not the sole and total owner of all substantial rights in any of the Patents-in-Suit as of the filing date of the Complaint, TQ Delta lacks standing to bring one or more claims in this lawsuit.

**XX. FIFTEENTH AFFIRMATIVE DEFENSE
(Marking Defense)**

18. The relief sought by TQ Delta is barred or limited, in whole or in part, by the failure to mark, by TQ Delta or by one or more parties licensed or otherwise authorized to practice the Asserted Patents, as required by 35 U.S.C. § 287.

19. For example, TQ Delta's predecessor, Aware, also sold products that apparently practiced the Asserted Patents, at least as construed by TQ Delta, which TQ Delta fails to contend were marked. In addition, a prior suit against ZyXEL was resolved through settlement pursuant to a patent license agreement. *See* Ex. No. 1, Stipulation of Dismissal, *TQ Delta, LLC v. ZyXEL Comms., Inc.*, No. 13-cv-2013 (D. Del. Jan 6, 2020), ECF No. 691. Likewise, in a litigation before Judge Andrews at the District of Delaware, Michael Tzannes, the primary inventor of the majority of TQ Delta's portfolio, testified that Infineon was also licensed to build and sell DSL chips. *See* Ex. No. 2, Defendant ADTRAN, Inc.'s Licensing Proffer at *2–3, *TQ Delta, LLC v. ADTRAN*, No. 1:15-cv-00121 (D. Del. Oct. 3, 2019), ECF No. 864. As a result of TQ Delta's previous litigation activities, at least ZyXEL and Infineon are authorized to practice the claims of TQ Delta's patents. In its Complaint, TQ Delta does not deny that ZyXEL or Infineon have sold licensed products, nor does it allege that ZyXEL or Infineon did in fact mark licensed products in compliance with 35 U.S.C. § 287(a).

**XXI. SIXTEENTH AFFIRMATIVE DEFENSE
(Ensnarement)**

20. TQ Delta's claims against Nokia are barred, in whole or in part, by the doctrine of ensnarement based on statements and/or amendments made by the applicants during prosecution of the Asserted Patents.

**XXII. SEVENTEENTH AFFIRMATIVE DEFENSE
(Reservation of Defenses)**

21. Nokia reserves all affirmative defenses under Rule 8(c) of the Federal Rules of Civil Procedure, the patent laws of the United States, and any other defenses at law or in equity that may exist now or that may be available in the future, including (but not limited to) those related to the unenforceability of any claim of the Patents based on inequitable conduct, based on discovery and further factual investigation in this action. Assertion of a defense is not a concession that Nokia has the burden of proving the matter asserted.

XXIII. DEMAND FOR A JURY TRIAL

Nokia respectfully requests a trial by jury on all issues so triable.

XXIV. PRAYER FOR RELIEF

WHEREFORE, Nokia requests that:

- (a) Plaintiff's Complaint be dismissed with prejudice;
- (b) The Court enter judgment that Plaintiff is not entitled to any relief whatsoever, whether in law or equity or otherwise, from its suit against Nokia;
- (c) That the claims of the Asserted Patents be found invalid and/or unenforceable;
- (d) The Court enter judgment that Nokia does not infringe and has not infringed any valid claim of the Asserted Patents and that Plaintiff take nothing by its Complaint;



- (e) The Court declare this case to be exceptional and award Nokia its reasonable attorneys' fees and expenses incurred in defending this action; and
- (f) The Court grant such other and further relief as it deems to be just and proper.

NOKIA OF AMERICA’S THIRD-PARTY COMPLAINT AGAINST BROADCOM

Pursuant to Rule 14 of the Federal Rules of Civil Procedure, Nokia of America asserts this third-party complaint for indemnification from Broadcom Corp. and Broadcom Inc., and Avago Technologies International Sales Pte. Ltd. (collectively, “Broadcom”) and alleges as follows:

I. NATURE OF ACTION

1. Plaintiff TQ Delta alleges that Nokia infringes the Asserted Patents because Nokia makes, uses, sells, or offers to sell products that comply with certain allegedly infringing DSL standards (the “Accused Products” implementing the “Accused Functionalities”). The Accused Functionalities of the Accused Products are implemented entirely in third-party chipsets (“Accused Chipsets”) that Nokia purchases largely from Third-Party Defendant Broadcom. Solely for the purpose of establishing TQ Delta’s allegations against Nokia in the above-captioned lawsuit, Nokia of America incorporates by reference the allegations in TQ Delta’s Complaint.

2. Nokia denies the allegations in TQ Delta’s Complaint and denies any liability to TQ Delta, but asserts that, if held liable to TQ Delta, Nokia is entitled to indemnification from Broadcom [REDACTED]

II. PARTIES

3. Nokia states that Nokia of America is a Delaware corporation with a principal place of business at 600 Mountain Avenue, Murray Hill, NJ 07974.

4. On information and belief, Broadcom Corporation is a corporation organized and existing under the laws of California and having its principal place of business at 16215 Alton Parkway, Irvine, California 92618.

5. On information and belief, Broadcom Incorporated is a corporation organized and existing under the laws of California and having its principal place of business at 1320 Ridder Park Drive, San Jose, CA 95131.

6. On information and belief, Avago Technologies International Sales Pte. Ltd. Is incorporated in the state of Singapore and has its principal place of business at 1 Yishun Avenue 7, Singapore 768923.

7. On information and belief, Broadcom Corporation and Avago Technologies International Sales Pte. Ltd., are a wholly owned subsidiaries of Broadcom Incorporated.

8. On information and belief, Broadcom designs, manufactures, and sells chipsets used around the world by telecommunications manufacturers, including Nokia. Broadcom is also registered and actively engaged in business within the state of Texas, and maintains a registered agent in the State of Texas at Corporation Service Company d/b/a CSC-Lawyers Incorporating Service Company at 211 East 7th Street, Suite 620, Austin, Texas, 78701-3218 and 2901 Via Fortuna Drive, Austin, Texas 78746.²

III. JURISDICTION AND VENUE

9. This is an action for patent infringement brought by TQ Delta against Nokia, arising under the patent laws of the United States, specifically, 35 U.S.C. §§ 271, 284, and 285, based in part on allegations in TQ Delta's Complaint that certain products infringe TQ Delta's patents.

10. Nokia's liability, if any, with respect to the Accused Products is attributable to Nokia's inclusion of the Accused Chipsets in the Accused Products. Nokia obtains these parts

² *Proven Networks, LLC., v. Broadcom, Inc.*, No. 6:21-cv-00003 (W.D. Tex. 2021) (Dkt. No. 17) ¶ 6.

directly from the Third-Party Defendant, Broadcom. This Court has subject matter jurisdiction over this action under at least 28 U.S.C. §§ 1331 and 1338(a). This Court has subject matter jurisdiction over this third-party complaint under at least 28 U.S.C. §§ 1367(a) and 1332.

11. This Court also has personal jurisdiction over Broadcom pursuant to the Texas long-arm statute because it does business in Texas by designing, manufacturing, and selling to Nokia chipsets that are installed into the Accused Products, which Nokia then sells. Further, Broadcom is, on information and belief, fully aware that it designs, manufactures, and sells the chipsets that are then sold in the Accused Products throughout the United States. By designing, manufacturing, and selling chipsets that Broadcom is fully aware will be used in the Accused Products, Broadcom has participated in the allegedly infringing acts asserted by TQ Delta in its Complaint. Broadcom also has a regular and established place of business in this District, including at 5465 Legacy Dr., Suite 700, Plano, TX 75024.

12. Further, Broadcom has availed itself of the benefits and protections of the state's laws by filing suit in this District.³ Broadcom has also admitted that it is subject to personal jurisdiction in this District.⁴ Venue is proper in this Court with respect to this third-party complaint pursuant to 28 U.S.C. § 1400.

³ See *Broadcom Corp. v. Toyota Motor Corp. et al.*, No. 2:18-cv-00190 (E.D. Tex. filed May 7, 2018); *CA, Inc. and Avago Tech. Int'l Sales Pte. Ltd., v. Netflix, Inc.*, No. 2:21-cv-80 (E.D. Tex. filed Mar. 9, 2021).

⁴ See *Godo Kaisha IP Bridge I v. Broadcom Ltd. et al.*, No. 2:16-cv-134 (E.D. Tex. May 9, 2016) (Dkt. 30), ¶ 9; *Gravel Rating Systems LLC v. Broadcom Inc.*, No. 4:21-cv-329 (E.D. Tex. 2021) (Dkt. 36), ¶ 7.

IV. FACTUAL ALLEGATIONS

13. Nokia of America realleges and incorporates paragraphs 1-10 as if fully set forth herein.

14. Plaintiff TQ Delta alleges that Nokia infringes the Asserted Patents because Nokia makes, uses, sells, or offers to sell products that comply with certain allegedly infringing DSL standards. The Accused Functionalities of the Accused Products are implemented, if at all, entirely in third-party chipsets that Nokia purchases from Third-Party Defendant Broadcom. On November 4, 2021, TQ Delta served its Preliminary Infringement Contentions on Nokia. The Accused Functionalities in the claim charts are implemented, is at all, entirely in the Accused Chipsets that Nokia purchases from Broadcom.

15. Broadcom has a valid and enforceable contract [REDACTED]
[REDACTED]
[REDACTED] for the supply of certain chipsets. Under this contract, Broadcom designs, develops, and sells chipsets to Nokia. Nokia then installs these components into products. The [REDACTED] contains specific provisions whereby Broadcom has agreed to defend and indemnify Nokia for any loss, liability, damages, costs, and expenses arising from any claim alleging intellectual property infringement by the supplied components.

16. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

17. Having been sued by TQ Delta for infringement for components designed, developed, and sold by Broadcom that are used in the Accused Products, Nokia of America seeks indemnification under the [REDACTED] [REDACTED]

[REDACTED]

V. CAUSE OF ACTION

COUNT I: INDEMNIFICATION

18. Nokia of America realleges and incorporates paragraphs 1-15 as if fully set forth herein.

19. TQ Delta filed a complaint against Nokia alleging patent infringement [Dkt. 1]. Nokia incorporates TQ Delta's complaint by reference, solely for the limited purpose of identifying TQ Delta's allegations.

20. Nokia denies any liability, but if TQ Delta is successful in its claims, Nokia may be held liable for the relief prayed for in TQ Delta's complaint solely because of the conduct of the Broadcom, namely the use of the Accused Chipsets designed, developed, and sold by Broadcom under the [REDACTED] that are then used in Nokia's Accused Products. Nokia's liability would be vicarious only and the direct and proximate result of the active and affirmative conduct on the part of Broadcom.

21. The terms of the [REDACTED] require that Broadcom defend, indemnify, and hold harmless Nokia for intellectual-property infringement claims. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

22. Therefore, pursuant to the [REDACTED] and Nokia's request, Broadcom has an obligation to defend or settle, at its expense, the present infringement claims asserted against Nokia in this lawsuit.

23. Moreover, Nokia has denied and does deny that it has infringed the Asserted Patents and/or that it is in any way liable to TQ Delta. However, if Nokia is held liable to TQ Delta for patent infringement by virtue of the incorporation of the Accused Chipsets in Nokia's Accused Products, then Broadcom is obligated to indemnify and hold Nokia harmless for all such amounts for which Nokia may be held liable to TQ Delta as well as all related costs and expenses incurred.

JURY DEMAND

Nokia of America demands a trial by jury on all issues presented in this third-party complaint.

PRAYER FOR RELIEF

WHEREFORE, Nokia of America respectfully requests that Broadcom be summoned to appear and answer, and the Court enter judgment that:

- (a) If Nokia is found liable to TQ Delta for infringement of any TQ Delta patents by virtue of the incorporation of Accused Chipsets in parts used in Nokia's products, that Nokia is entitled to indemnity from Broadcom for all amounts for which Nokia may be held liable;

- (b) Nokia of America recovers as money damages from Broadcom all amounts Nokia may be required to pay to TQ Delta in this action, if any, as well as all of Nokia's costs, expenses, professional fees and attorney's fees related to TQ Delta's allegations that the Accused Chipsets infringe;
- (c) Nokia of America recovers its costs, expenses, and professional and attorneys' fees incurred in prosecution of this third-party complaint; and
- (d) Nokia of America recovers such other and further relief as the Court finds just and equitable.

Dated: January 28, 2022

Respectfully submitted,

/s/ M. Scott Stevens

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

CERTIFICATE OF SERVICE

I hereby certify that on January 28, 2022, I caused the forgoing to be electronically filed with the Clerk of the Court using CM/ECF, which will send notification of such filing to all registered participants. In addition, all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document by electronic mail.

/s/ M. Scott Stevens

M. Scott Stevens

CERTIFICATE OF SERVICE

I hereby certify that on January 31, 2022, I caused the forgoing to be electronically filed with the Clerk of the Court using CM/ECF, which will send notification of such filing to all registered participants. In addition, all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document by electronic mail.

/s/ M. Scott Stevens

M. Scott Stevens